

**WHAT IS CLAIMED IS:**

1. A monoclonal antibody selected from the group consisting of:
  - (a) a monoclonal antibody Met3 produced by the hybridoma cell line deposited in the American Type Culture Collection under Accession Number PTA-4349; and
  - (b) a monoclonal antibody Met5 produced by the hybridoma cell line deposited in the American Type Culture Collection under Accession Number PTA-4477,or an antigen binding fragment or derivative of said antibody.
2. The Met3 monoclonal antibody, or fragment or derivative thereof, of claim 1 produced by the hybridoma cell line deposited in the American Type Culture Collection under Accession Number PTA-4349.
3. The Met5 monoclonal antibody, or fragment or derivative thereof, of claim 1 produced by the hybridoma cell line deposited in the American Type Culture Collection under Accession Number PTA-4477.
4. A monoclonal antibody, or antigen-binding fragment or derivative thereof, that has all the identifying biological characteristics of the monoclonal antibody, fragment or derivative of claim 2.
5. A monoclonal antibody, or antigen-binding fragment or derivative thereof, that has all the identifying biological characteristics of the monoclonal antibody, fragment or derivative of claim 3.
6. A humanized monoclonal antibody specific for Met, wherein the heavy chain and/or light chain variable region of said antibody, or an antigen binding site of said variable regions, has all the identifying biological or structural characteristics of the corresponding regions or sites of the monoclonal antibody of claim 2 or 3, and substantially all the remainder of the humanized monoclonal antibody is of human origin,  
or an antigen binding fragment or derivative of said humanized monoclonal antibody.

7. A human monoclonal antibody specific for Met that binds to the same epitope as the epitope to which the monoclonal antibody of claims 2 binds, or an antigen binding fragment or derivative of said human antibody.

8. A human monoclonal antibody specific for Met that binds to the same epitope as the epitope to which the monoclonal antibody of claims 3 binds, or an antigen binding fragment or derivative of said human antibody.

9. A composition comprising the monoclonal antibody, fragment or derivative of claim 1.

10. A composition comprising the monoclonal antibody, fragment or derivative of claim 2.

11. A composition comprising the monoclonal antibody, fragment or derivative of claim 3.

12. The composition of any claim 9-11, further comprising one or more additional antibodies specific for a Met epitope, or comprising an antigen-binding fragment or derivative of said additional one or more antibodies.

13. The composition of any of claims 9-11 further comprising one or more antibodies specific for hepatocyte growth factor (HGF), or comprising an antigen-binding fragment or derivative of said one or more HGF-specific antibodies.

14. The composition of claim 13 wherein the one or more antibodies specific for HGF is selected from the group consisting of:

- (a) a monoclonal antibody produced by the hybridoma cell line deposited in the American Type Culture Collection under Accession Number PTA-3414;
- (b) a monoclonal antibody produced by the hybridoma cell line deposited in the American Type Culture Collection under Accession Number PTA-3416;
- (c) a monoclonal antibody produced by the hybridoma cell line deposited in the American Type Culture Collection under Accession Number PTA-3413; and

- (d) a monoclonal antibody produced by the hybridoma cell line deposited in the American Type Culture Collection under Accession Number PTA-3412.
15. A diagnostically useful composition comprising
- (a) a diagnostically or detectably labeled monoclonal antibody, fragment or derivative of any of claims 1-8 and;
  - (b) a diagnostically acceptable carrier or excipient.
16. A diagnostically useful composition comprising
- (a) a diagnostically or detectably labeled composition of any of claims 9-11; and
  - (b) a diagnostically acceptable carrier or excipient.
17. A diagnostically useful composition comprising
- (a) a diagnostically or detectably labeled composition of claim 12; and
  - (b) a diagnostically acceptable carrier or excipient.
18. A diagnostically useful composition comprising
- (a) a diagnostically or detectably labeled composition of claim 13; and
  - (b) a diagnostically acceptable carrier or excipient.
19. The diagnostically useful composition of claim 15 wherein the monoclonal antibody, fragment or derivative is labeled with a detectable label selected from the group consisting of a radionuclide, a PET-imageable agent, a MRI-imageable agent, a fluorescer, a fluorogen, a chromophore, a chromogen, a phosphorescer, a chemiluminescer and a bioluminescer.
20. The diagnostically useful composition of claim 16 wherein the monoclonal antibody or monoclonal antibodies, or the fragment or derivative, is or are labeled with a detectable label selected from the group consisting of a radionuclide, a PET-imageable agent, a MRI-imageable agent, a fluorescer, a fluorogen, a chromophore, a chromogen, a phosphorescer, a chemiluminescer and a bioluminescer.

21. The composition of claim 19 wherein the monoclonal antibody, fragment or derivative is labeled with a radionuclide.
22. The composition of claim 21 wherein said radionuclide is one which is detectable *in vivo*.
23. The composition of claim 22 wherein the radionuclide is detectable by radioimmunosciintigraphy.
24. The composition of claim 21 wherein the radionuclide is selected from the group consisting of  $^3\text{H}$ ,  $^{14}\text{C}$ ,  $^{35}\text{S}$ ,  $^{99}\text{Tc}$ ,  $^{123}\text{I}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{111}\text{In}$ ,  $^{97}\text{Ru}$ ,  $^{67}\text{Ga}$ ,  $^{68}\text{Ga}$ ,  $^{72}\text{As}$ ,  $^{89}\text{Zr}$  and  $^{201}\text{Tl}$ .
25. The composition of claim 24 wherein the radionuclide is  $^{125}\text{I}$ .
26. The composition of claim 20 wherein the monoclonal antibody, fragment or derivative is labeled with a radionuclide.
27. The composition of claim 26 wherein said radionuclide is one which is detectable *in vivo*.
28. The composition of claim 27 wherein the radionuclide is detectable by radioimmunosciintigraphy.
29. The composition of claim 26 wherein the radionuclide is selected from the group consisting of  $^3\text{H}$ ,  $^{14}\text{C}$ ,  $^{35}\text{S}$ ,  $^{99}\text{Tc}$ ,  $^{123}\text{I}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{111}\text{In}$ ,  $^{97}\text{Ru}$ ,  $^{67}\text{Ga}$ ,  $^{68}\text{Ga}$ ,  $^{72}\text{As}$ ,  $^{89}\text{Zr}$  and  $^{201}\text{Tl}$ .
30. The composition of claim 29 wherein the radionuclide is  $^{125}\text{I}$ .
31. The composition of claim 19 wherein the detectable label is a fluorescer or fluorogen.
32. The composition of claim 31 wherein the fluorescer or fluorogen is selected from the group consisting of fluorescein, rhodamine, dansyl, phycoerythrin, phycocyanin, allophycocyanin, o-phthaldehyde, fluorescamine, a fluorescein derivative, Oregon Green, Rhodamine Green, Rhodol Green and Texas Red.

33. The composition of claim 20 wherein the detectable label is a fluorescer or fluorogen.

34. The composition of claim 33 wherein the fluorescer or fluorogen is selected from the group consisting of fluorescein, rhodamine, dansyl, phycoerythrin, phycocyanin, allophycocyanin, o-phthaldehyde, fluorescamine, a fluorescein derivative, Oregon Green, Rhodamine Green, Rhodol Green and Texas Red.

35. The composition of claim 19 wherein said detectable label is bound to the antibody through one or more diethylenetriaminepentaacetic acid (DTPA) residues that are coupled to the antibody.

36. The composition of claim 35 wherein the detectable label is bound to the antibody through one DTPA residue.

37. The composition of claim 35 useful for MRI diagnosis wherein metal atoms are bound to said DTPA residues.

38. The composition of claim 37 wherein said metal is selected from the group consisting of gadolinium, manganese, copper, iron, gold and europium.

39. The composition of claim 38 wherein said metal is gadolinium.

40. The composition of claim 20 wherein said detectable label is bound to the antibody through one or more diethylenetriaminepentaacetic acid (DTPA) residues that are coupled to the antibody.

41. The composition of claim 40 wherein the detectable label is bound to the antibody through one DTPA residue.

42. The composition of claim 40 useful for MRI diagnosis wherein metal atoms are bound to said DTPA residues.

43. The composition of claim 42 wherein said metal is selected from the group consisting of gadolinium, manganese, copper, iron, gold and europium.

44. The composition of claim 43 wherein said metal is gadolinium.
45. A therapeutic composition useful for treating a Met-expressing tumor, comprising:
- (a) the monoclonal antibody, fragment or derivative of any of claims 1-8 in a therapeutically effective amount, and
  - (b) a pharmaceutically or therapeutically acceptable carrier or excipient.
46. A therapeutic composition useful for treating a Met-expressing tumor, comprising:
- (a) the composition of any of claims 9-11 in a therapeutically effective amount, and;
  - (b) a pharmaceutically or therapeutically acceptable carrier or excipient.
47. A therapeutic composition useful for treating a Met-expressing tumor, comprising:
- (a) the composition of claim 12 in a therapeutically effective amount, and;
  - (b) a pharmaceutically or therapeutically acceptable carrier or excipient.
48. A therapeutic composition useful for treating a Met-expressing tumor, comprising:
- (a) the composition of claim 13 in a therapeutically effective amount, and;
  - (b) a pharmaceutically or therapeutically acceptable carrier or excipient.
49. The therapeutic composition of claim 45 in a form suitable for injection or infusion.
50. The therapeutic composition of claim 45, wherein at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.
51. The therapeutic composition of claim 50 wherein the therapeutic moiety is a radionuclide.

52. The therapeutic composition of claim 51 wherein the radionuclide is selected from the group consisting of  $^{47}\text{Sc}$ ,  $^{67}\text{Cu}$ ,  $^{90}\text{Y}$ ,  $^{109}\text{Pd}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{186}\text{Re}$ ,  $^{188}\text{Re}$ ,  $^{199}\text{Au}$ ,  $^{211}\text{At}$ ,  $^{212}\text{Pb}$  and  $^{217}\text{Bi}$ .

53. The therapeutic composition of claim 46 in a form suitable for injection or infusion.

54. The therapeutic composition of claim 46, wherein at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.

55. The therapeutic composition of claim 54 wherein the therapeutic moiety is a radionuclide.

56. The therapeutic composition of claim 55 wherein the radionuclide is selected from the group consisting of  $^{47}\text{Sc}$ ,  $^{67}\text{Cu}$ ,  $^{90}\text{Y}$ ,  $^{109}\text{Pd}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{186}\text{Re}$ ,  $^{188}\text{Re}$ ,  $^{199}\text{Au}$ ,  $^{211}\text{At}$ ,  $^{212}\text{Pb}$  and  $^{217}\text{Bi}$ .

57. The therapeutic composition of claim 47 in a form suitable for injection or infusion.

58. The therapeutic composition of claim 47, wherein at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.

59. The therapeutic composition of claim 58 wherein the therapeutic moiety is a radionuclide.

60. The therapeutic composition of claim 59 wherein the radionuclide is selected from the group consisting of  $^{47}\text{Sc}$ ,  $^{67}\text{Cu}$ ,  $^{90}\text{Y}$ ,  $^{109}\text{Pd}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{186}\text{Re}$ ,  $^{188}\text{Re}$ ,  $^{199}\text{Au}$ ,  $^{211}\text{At}$ ,  $^{212}\text{Pb}$  and  $^{217}\text{Bi}$ .

61. The therapeutic composition of claim 48 in a form suitable for injection or infusion.

62. The therapeutic composition of claim 48, wherein at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.



63. The therapeutic composition of claim 62 wherein the therapeutic moiety is a radionuclide.

64. The therapeutic composition of claim 63 wherein the radionuclide is selected from the group consisting of  $^{47}\text{Sc}$ ,  $^{67}\text{Cu}$ ,  $^{90}\text{Y}$ ,  $^{109}\text{Pd}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{186}\text{Re}$ ,  $^{188}\text{Re}$ ,  $^{199}\text{Au}$ ,  $^{211}\text{At}$ ,  $^{212}\text{Pb}$  and  $^{217}\text{Bi}$ .

65. A kit, comprising:

- (a) a labeled first container comprising the antibody, fragment or derivative of any of claims 1-8;
- (b) a labeled second container comprising a diagnostically or pharmaceutically-acceptable carrier or excipient; and
- (c) instructions for using the antibody to diagnose, prognose, monitor or treat a cancerous condition or a tumor in a subject wherein cancer or tumor cells in said subject express Met,

wherein the antibody, fragment or derivative is effective for diagnosing, prognosing, monitoring or treating said condition and

said labeled container indicates that the antibody can be used for said diagnosing, prognosing, monitoring or treating.

66. A method for detecting the presence of Met (i) on the surface of a cell, (ii) in a tissue, (iii) in an organ or (iv) in a biological sample, which cell, tissue, organ or sample is suspected of expressing Met, comprising the steps of:

- (a) contacting the cell, tissue, organ or sample with the composition of claim 15;
- (b) detecting the presence of the label associated with the cell, tissue, organ or sample.

67. A method for detecting the presence of Met (i) on the surface of a cell, (ii) in a tissue, (iii) in an organ or (iv) in a biological sample, which cell, tissue, organ or sample is suspected of expressing Met, comprising the steps of:

- (a) contacting the cell, tissue, organ or sample with the composition of claim 16;



- (b) detecting the presence of the label associated with the cell, tissue, organ or sample.

68. A method for detecting the presence of Met (i) on the surface of a cell, (ii) in a tissue, (iii) in an organ or (iv) in a biological sample, which cell, tissue, organ or sample is suspected of expressing Met, comprising the steps of:

- (a) contacting the cell, tissue, organ or sample with the composition of claim 17;
- (b) detecting the presence of the label associated with the cell, tissue, organ or sample.

69. A method for detecting the presence of Met (i) on the surface of a cell, (ii) in a tissue, (iii) in an organ or (iv) in a biological sample, which cell, tissue, organ or sample is suspected of expressing Met, comprising the steps of:

- (a) contacting the cell, tissue, organ or sample with the composition of claim 18;
- (b) detecting the presence of the label associated with the cell, tissue, organ or sample.

70. The method of claim 66, wherein the contacting and the detecting are *in vitro*.

71. The method of claim 66 wherein the contacting is *in vivo* and the detecting is *in vitro*.

72. The method of claim 66, wherein the contacting and the detecting are *in vivo*.

73. The method of claim 67, wherein the contacting and the detecting are *in vivo*.

74. The method of claim 68, wherein the contacting and the detecting are *in vivo*.

75. The method of claim 69, wherein the contacting and the detecting are *in vivo*.

76. The method of claim 72 wherein said detectable label is a radionuclide

77. The method of claim 73 wherein said detectable label is a radionuclide

78. The method of claim 74 wherein said detectable label is a radionuclide

79. The method of claim 75 wherein said detectable label is a radionuclide
80. The method of claim 76 wherein the radionuclide is selected from the group consisting of  $^3\text{H}$ ,  $^{14}\text{C}$ ,  $^{35}\text{S}$ ,  $^{99}\text{Tc}$ ,  $^{123}\text{I}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{111}\text{In}$ ,  $^{97}\text{Ru}$ ,  $^{67}\text{Ga}$ ,  $^{68}\text{Ga}$ ,  $^{72}\text{As}$ ,  $^{89}\text{Zr}$  and  $^{201}\text{Tl}$ .
81. The method of claim 77 wherein the radionuclide is selected from the group consisting of  $^3\text{H}$ ,  $^{14}\text{C}$ ,  $^{35}\text{S}$ ,  $^{99}\text{Tc}$ ,  $^{123}\text{I}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{111}\text{In}$ ,  $^{97}\text{Ru}$ ,  $^{67}\text{Ga}$ ,  $^{68}\text{Ga}$ ,  $^{72}\text{As}$ ,  $^{89}\text{Zr}$  and  $^{201}\text{Tl}$ .
82. The method of claim 78 wherein the radionuclide is selected from the group consisting of  $^3\text{H}$ ,  $^{14}\text{C}$ ,  $^{35}\text{S}$ ,  $^{99}\text{Tc}$ ,  $^{123}\text{I}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{111}\text{In}$ ,  $^{97}\text{Ru}$ ,  $^{67}\text{Ga}$ ,  $^{68}\text{Ga}$ ,  $^{72}\text{As}$ ,  $^{89}\text{Zr}$  and  $^{201}\text{Tl}$ .
83. The method of claim 79 wherein the radionuclide is selected from the group consisting of  $^3\text{H}$ ,  $^{14}\text{C}$ ,  $^{35}\text{S}$ ,  $^{99}\text{Tc}$ ,  $^{123}\text{I}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{111}\text{In}$ ,  $^{97}\text{Ru}$ ,  $^{67}\text{Ga}$ ,  $^{68}\text{Ga}$ ,  $^{72}\text{As}$ ,  $^{89}\text{Zr}$  and  $^{201}\text{Tl}$ .
84. The method of claim 80 wherein said detecting is by radioimmunoscintigraphy.
85. The method of claim 81 wherein said detecting is by radioimmunoscintigraphy.
86. The method of claim 82 wherein said detecting is by radioimmunoscintigraphy.
87. The method of claim 83 wherein said detecting is by radioimmunoscintigraphy.
88. The method of claim 84 wherein the radionuclide is  $^{125}\text{I}$ .
89. The method of claim 85 wherein the radionuclide is  $^{125}\text{I}$ .
90. The method of claim 86 wherein the radionuclide is  $^{125}\text{I}$ .
91. The method of claim 87 wherein the radionuclide is  $^{125}\text{I}$ .
92. The method of claim 72, wherein the detectable label is an MRI-imageable agent and the detecting is by MRI.
93. The method of claim 73, wherein the detectable label is an MRI-imageable agent and the detecting is by MRI.

94 The method of claim 74, wherein the detectable label is an MRI-imageable agent and the detecting is by MRI.

95 The method of claim 75, wherein the detectable label is an MRI-imageable agent and the detecting is by MRI.

96. A method for inhibiting (i) the proliferation, migration, or invasion of, Met-expressing tumor cells or (ii) angiogenesis induced by Met-expressing tumor cells, comprising contacting said cells with an effective amount of the therapeutic composition of claim 45.

97. A method for inhibiting (i) the proliferation, migration, or invasion of, Met-expressing tumor cells or (ii) angiogenesis induced by Met-expressing tumor cells, comprising contacting said cells with an effective amount of the therapeutic composition of claim 46.

98. A method for inhibiting (i) the proliferation, migration, or invasion of, Met-expressing tumor cells or (ii) angiogenesis induced by Met-expressing tumor cells, comprising contacting said cells with an effective amount of the therapeutic composition of claim 47.

99. A method for inhibiting (i) the proliferation, migration, or invasion of, Met-expressing tumor cells or (ii) angiogenesis induced by Met-expressing tumor cells, comprising contacting said cells with an effective amount of the therapeutic composition of claim 48.

100. The method of claim 96 wherein the contacting is *in vivo*.

101. The method of claim 97 wherein the contacting is *in vivo*.

102. The method of claim 98 wherein the contacting is *in vivo*.

103. The method of claim 99 wherein the contacting is *in vivo*.

104. The method of claim 100 wherein the therapeutic composition of is in a form suitable for injection or infusion.

105. The method of claim 100 wherein, in the therapeutic composition, at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.

106. The method of claim 105 wherein, in the therapeutic composition, the therapeutic moiety is a radionuclide.

107. The method of claim 101 wherein the therapeutic composition of is in a form suitable for injection or infusion.

108. The method of claim 101 wherein, in the therapeutic composition, at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.

109. The method of claim 108 wherein, in the therapeutic composition, the therapeutic moiety is a radionuclide.

110. The method of claim 102 wherein the therapeutic composition of is in a form suitable for injection or infusion.

111. The method of claim 102 wherein, in the therapeutic composition, at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.

112. The method of claim 111 wherein, in the therapeutic composition, the therapeutic moiety is a radionuclide.

113. The method of claim 103 wherein the therapeutic composition of is in a form suitable for injection or infusion.

114. The method of claim 103 wherein, in the therapeutic composition, at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.

115. The method of claim 114 wherein, in the therapeutic composition, the therapeutic moiety is a radionuclide.

116. A method for treating a subject having a cancerous disease or condition associated with (i) undesired proliferation, migration or invasion of Met-expressing cells or (ii) undesired angiogenesis induced by Met-expressing cells, comprising administering to the subject an effective amount of the therapeutic composition of claim 45.

117. A method for treating a subject having a cancerous disease or condition associated with (i) undesired proliferation, migration or invasion of Met-expressing cells or (ii) undesired angiogenesis induced by Met-expressing cells, comprising administering to the subject an effective amount of the therapeutic composition of claim 46.

118. A method for treating a subject having a cancerous disease or condition associated with (i) undesired proliferation, migration or invasion of Met-expressing cells or (ii) undesired angiogenesis induced by Met-expressing cells, comprising administering to the subject an effective amount of the therapeutic composition of claim 47.

119. A method for treating a subject having a cancerous disease or condition associated with (i) undesired proliferation, migration or invasion of Met-expressing cells or (ii) undesired angiogenesis induced by Met-expressing cells, comprising administering to the subject an effective amount of the therapeutic composition of claim 48.

120. The method of claim 116 wherein, in the therapeutic composition, at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.

121. The method of claim 117 wherein, in the therapeutic composition, at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.

122. The method of claim 118 wherein, in the therapeutic composition, at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.

123. The method of claim 119 wherein, in the therapeutic composition, at least one of the antibodies, fragments or derivatives is bound to, conjugated to, or labeled with a therapeutic moiety.

124. The hybridoma cell line deposited in the American Type Culture Collection under Accession Number PTA-4349.

125. The hybridoma cell line deposited in the American Type Culture Collection under Accession Number PTA-4477.